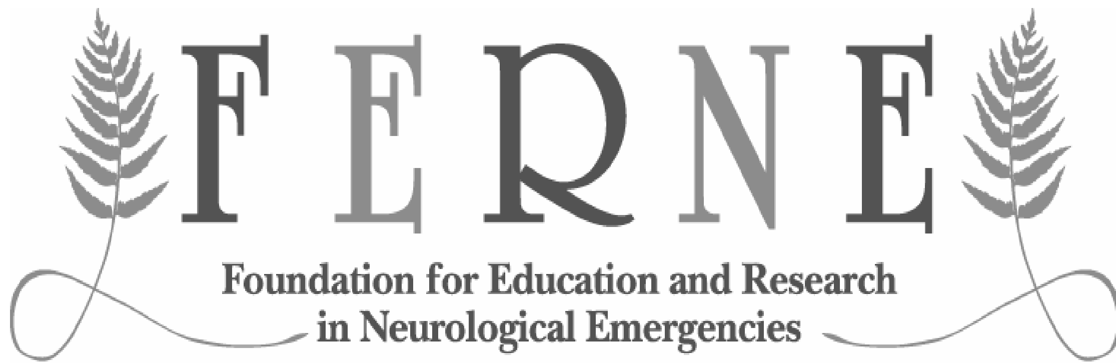

Opportunities and Research Horizons in Pain Management

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Key Clinical Questions

- What are key influences on emergency medicine pain management and research?
- How can national pain management initiatives benefit our specialty?
- What pain research strengths and weaknesses characterize our specialty?
- How can we increase opportunities for emergency medicine clinicians, researchers and policy makers in this area?

Key Learning Points

- Pain is common and severe among emergency department patients.
- Increasing numbers of emergency physicians are involved in pain research, education, and advocacy.
- The quality of EM resident education and research must improve.
- Therapeutic modalities are multiplying -- we must become more involved in the regulatory process and analgesic clinical trials.

Pain Management Horizons

The barriers to adequate care of emergency department patients in pain are numerous. [1] While some find fault with emergency medicine in this area, our specialty is certainly not alone in undertreating pain. Studies have documented oligoanalgesia, the undertreatment of pain, in a variety of patient groups, including medical and surgical inpatients, nursing home residents, cancer patients, and others. [2,3,4] These barriers are common to all medical specialties (inadequate education, lack of institutional commitment) but many are more salient to the emergency medicine community (time demands, lack of patient-physician continuity, diagnostic uncertainty). [5]

Deficiencies in pain treatment have prompted a number of initiatives to improve the quality of pain management, including practice guidelines from what is now the Agency for Healthcare Research and Quality, quality improvements guidelines from the American Pain Society, and beginning in 2001, revised pain standards from the Join Commission on Accreditation of Healthcare Organizations. [6,7,8]

Despite the pessimism that colors this discussion, it is apparent that analgesic practices are evolving rapidly. The latest emergency department data from the National Hospital Ambulatory Medical Care Survey reveals that from 1997 through 2001, there has been an impressive 18% increase in analgesic use in U. S. emergency departments (from 47.2 to 56.2 mentions per 100 visits) with marked increases in both nonsteroidal anti-inflammatory agents and opioid analgesics. [9]

We do not know the reasons for this increase; however, a number of factors may be at work. These influences include policy and regulatory initiatives, institutional quality improvement programs, pharmaceutical marketing campaigns, educational efforts, and new knowledge from basic and clinical research, among others. This topography of influence is important to understand if we are to move from passive observers, to active instigators of change.

With regard to policy, this is an active time in the area of pain management. In 2001, the U. S. Congress declared this the “Decade of Pain Control and Research” and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) issued revised standards mandating pain assessment in our emergency departments. More recently, Congressman Mike Rogers (R-MI) introduced The National Pain Care Policy Act of 2003 (H.R. 1863), another step in the federal recognition of pain as an important health care issue. This bill would create a National Center for Pain and Palliative Care Research at the National Institutes of Health and provide additional funds for pain research and education. In addition, it would create a White House Conference on Pain Care to identify key barriers to high quality pain management practices and establish a clearinghouse at the Agency for Healthcare Research and Quality to collect and disseminate protocols and evidence-based practices regarding pain and to clinicians and the general public.

The impact of these policy and regulatory initiatives is difficult to quantify. The revised JCAHO standards have generated some grumblings from emergency physicians about imposed regulations and in preliminary data from our research efforts, they seem to have prompted increased documentation of pain intensity, although perhaps little else. This

documentation reveals that, in general, our patients present with extremely high levels of pain. In one published study, fully half of all patients presenting to the emergency department with pain experienced pain of severe intensity (8 to 10 on a ten-point numerical rating scale) with median overall scores of eight. [10]

Despite the intention to promote pain intensity as an outcome measure with which to judge the quality of our efforts, our ongoing research finds that pain intensity is measured only once in most departments, at the time of patient arrival, without additional measures that might reflect the impact of our therapies. This documentation results largely from changes in medical record formats and perhaps mirrors medicine's traditional view of pain as a diagnostic indicator rather than an outcome deserving of attention in its own right.

Whether JCAHO standards have yet had an impact on practice is an unanswered question. Nonetheless, any documentation of pain experience is a necessary step in the right direction. The JCAHO initiative is not static, and we look forward to the forthcoming pain management performance measures and standards resulting from these efforts. [11] Thus far, our specialty has been less engaged in the development of pain policy. Although ACEP has specific clinical policies addressing abdominal and chest pain as well as the Clinical Policy for Procedural Sedation and Analgesia in the Emergency Department, these policies do not address the general treatment of pain. Currently, a subcommittee of the Clinical Policies Committee is at work on such a policy statement and we look forward to its completion and dissemination.

Pharmaceutical marketing has a remarkable power to influence our practice. Over the past few years, many pages of the Annals advertising section have touted the supposed benefits of cyclooxygenase-2 selective inhibitors, despite the lack of evidence for their superiority in our patient population over nonselective (and cheaper) nonsteroidal anti-inflammatory drugs. We will continue to be the targets of pharmaceutical houses offering new analgesic agents and delivery systems that may (or may not) represent valuable additions to our analgesic armamentarium.

In fact, it is rare that analgesic research leading to U. S. Food and Drug Administration (FDA) approval involves the emergency department, thus approved analgesics are tested in patients who may or may not resemble those we treat. To develop analgesics that are effective for emergency department patients, we must take on the task of promoting research in the emergency department setting. Results of clinical trials conducted in our departments can then be translated into clinical practice with added confidence.

The lack of emergency medicine involvement in the FDA's analgesic regulatory process may have had additional negative consequences. An FDA Advisory Committee addressing the issue of QT prolongation associated with droperidol did not include a representative from our specialty, despite the popularity of this drug among emergency physicians. [12] Likewise, recurrent shortages of drugs, particularly prochlorperazine, fentanyl, naloxone, have at times adversely affected our analgesic practices. Although these shortages are of unclear and complex provenance, our active, ongoing engagement in the Drug Shortage Program of the FDA's Center for Drug Evaluation and Research will, in the long run, best serve our patients and our colleagues. [13]

Regarding education, Drs. Rupp and Delaney note that The Model of the Clinical Practice of Emergency Medicine does not include a formal pain management curriculum. Most medical schools and emergency medicine residencies offer little in the way of pain didactics. Combating this trend through curriculum reform within medical schools and residencies will require time and the development of leadership within our academic training institutions.

Given the role that teachers of emergency medicine have increasingly assumed in the early medical school curriculum, we have a tremendous opportunity to shape the attitudes of all future physicians regarding pain treatment, not just those who choose to train in emergency medicine. Given our strategic location in the front lines of patient care, and the relative youth of our specialty, we may have particularly pertinent lessons to transmit to medical students regarding pain management practices, with less dogma to obscure a critical examination of current pain management practice.

Support for this optimism can be seen in emergency medicine's critical examination of the surgical dictum regarding withholding of opioid from patients with acute abdominal pain. One doubts that in its 20th edition, Cope's Early Diagnosis of the Acute Abdomen would have undergone the revisions discussed by Drs. Rupp and Delaney were it not for the research conducted by these investigators. One of emergency medicine's strengths is that it has yet to ossify into a traditional specialty, with rigid, dogmatic conceptions of appropriate pain management practice.

Much of our progress in emergency medicine pain research stems from formative work begun ten years ago by Drs. Jim Ducharme and William H. Cordell. In 1994, with support from the Canadian Association of Emergency Physicians and the Quebec Association of Emergency Physicians, they convened the First International Symposium on Pain Research in Emergency Medicine in Montreal. This symposium brought together a number of pain researchers in the U.S. and Canada who subsequently authored 23 articles in the April 1996 issue of the Annals of Emergency Medicine addressing pain research standards. [14]

More recently, The Mayday Fund, a New York City-based private foundation, funded grants to the Emergency Medicine Foundation and the American Society for Law, Medicine and Ethics to help increase our knowledge base and create a forum where medical, legal, and ethical issues related to pain and emergency medicine may be discussed. [15] In addition, for two years, the American Pain Society has sponsored scholarships for emergency physicians to increase our interactions with the broader pain community. These initiatives have provided opportunities and guidance for a growing network of emergency medicine pain researchers.

Unfortunately, at the federal level, funding for pain research has lagged behind policy developments. Although pain costs the U. S. $79 billion annually in lost productivity, results in more than 20% of visits to all physicians and 70% of visits to emergency departments, only 0.6% of the current National Institutes of Health (NIH) budget is devoted to basic and clinical pain research. [16,17,18,19]

While many factors contribute to the changing of clinical practice, physician leadership has been identified as a dominant component of successful reform efforts. [20] Although

Donald Berwick once characterized clinical health care leaders as, " …trained to ride out the storm, not to create one," I believe that our specialty is fundamentally different in this respect. [21]

Emergency medicine was created in response to the public's demand for high quality urgent and emergent medical care. Although much remains to be learned in the areas of pain education, research, and policy, strong emergency physician leadership can immediately begin to close the gap between what we know about high quality pain management and what we actually do.

There is a great power in the naming of things. Going forward, we should begin by defining our own standards for excellence in pain practice and promote quality improvement initiatives to achieve these goals. The purpose of this editorial is to help us understand important factors that shape our pain practices. We have explored what we know about this topography of influence but the most satisfactory method of understanding regions yet to be charted is to create them ourselves. Although we will find many allies in our efforts to ameliorate pain and suffering, the duty to provide superior emergency department pain management remains our own.

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